Section 10: Pre-Trip Vehicle InspectionTest

THIS SECTION COVERS
- **Lights and Reflectors**
- **Engine Compartment**
- **External Inspection**
- **In-Cab Checks and Engine Start**

Third Party Testers conduct CDL skills tests in Idaho. They are allowed to charge $50 to administer the skills test. Once you have passed the required written tests and obtained a receipt for a skills test (cost is $5), you may make an appointment with a Third Party Tester. A list of testers is available at your Sheriff's Office. Be sure to show up for your appointment. If you fail to show up, and later request a test, the examiner may be unable to test you.

The test will take two to three hours to complete. The skills test consists of a pre-trip vehicle inspection, a basic control skills test, and a driving test. You will need to provide a vehicle for the test. Some testers have vehicles available that you may rent for the test. (If the vehicle used for the test is not equipped with air brakes, your CDL will show a restriction stating that you are not licensed to operate vehicles equipped with air brakes.)

The vehicle inspection test evaluates your ability to inspect important parts of a commercial vehicle. You will be asked to correctly identify and inspect vehicle components to ensure that the vehicle is in safe operating condition.

Study the following sections that pertain to all vehicles as well as the sections that pertain to your particular vehicle. The Vehicle Inspection Memory Aid (pages 2-5 & 2-6) outlines key locations to inspect. You may bring one with you for the test as long as it has no writing on it. The following information outlines the recommended format and knowledge needed to take Idaho's vehicle inspection test. Additional inspection information is available in other sections of this manual.

Be sure to tell the skills test examiner what components you are inspecting and what defects you are looking for. This is the only way that the examiner can assess your ability to inspect your vehicle to be sure it is safe to operate.

The vehicle inspection consists of checking:
1. Vehicle lights,
2. Components in the engine compartment,
3. External components,
4. In cab equipment and gauges.

The vehicle components are listed in an order that may be the most logical to follow as you make an inspection. Your vehicle may not have all the components listed. Inspect the components that your vehicle has. Components repeatedly found on the vehicle such as tires, wheels, and suspension, should be inspected every time you come to them.

10.1
LIGHTS AND REFLECTORS

- **Lights** - Check all lights including headlights (high and low beam), tail lights, turn signals, 4-way flashers, brake lights, and clearance lights to make sure that they function properly and are clean.
- **Reflector**s - Check the reflectors to make sure that they are clean, not missing or broken and are of proper color (red on rear, amber elsewhere).

10.2
ENGINE COMPARTMENT

- **Leaks/hoses** - Check for signs of dripping fluids on the ground under the engine or on the underside of the engine. Inspect hoses for excessive wear, cracks, or leaks.

- **Coolant level** - Check sight glass of reservoir or say that you would remove the radiator cap to check the coolant level.
- **Water pump** - Check pump for leaks or cracks.
- **Air compressor** - Make sure the air compressor is securely mounted and is not leaking.
- **Oil level** - Use the dipstick to check the oil level, it should be above the refill mark.
- **Engine compartment belts** - Check the following belts for wear, frays or cracks. Push the belts with your hand. If they deflect more than 1/2 to 3/4 inch, slippage is probably excessive:
  - Power steering belt,
  - Water pump belt,
  - Alternator belt,
  - Air compressor belt.
- **Power steering fluid**- With the engine off, check the dipstick for proper fluid level, it should be above the refill mark.
- **Hydraulic brake fluid** - Check the fluid level, it should be above the refill mark.

10.3
EXTERNAL INSPECTION

Steering

- **Steering box/hoses** - Make sure the box is securely mounted to the vehicle frame and look for loose or missing nuts, bolts, cotter pins, power steering fluid leaks or damage to power steering hoses.
- **Steering linkage** - Check connecting links, arms, and tie-rods for wear or cracks, loose joints or sockets, loose or missing nuts or bolts.

Suspension

- **Springs/air suspension/torque arms** - Look for missing, shifted, cracked or broken leaf springs. Look for broken or distorted coil springs. Check air ride suspension for damage or leaks. If the vehicle is equipped with torsion bars, torque arms, or other types of suspension components, check for worn bushings, cracks, loose mountings, or missing components.
- **Mounts** - Look for cracked or broken spring hangers, missing or damaged bushings, and broken, loose, or missing bolts, u-bolts, other axle mounting parts. (The mounts should be checked at each point where they are secured to the vehicle frame and axles.)
- **Shock absorbers** - See that shock absorbers are secure and not leaking.

Brakes

- **Brake hoses** - Check for cracked, worn, frayed, or leaking hoses and secure couplings.
- **Brake chambers** - Check for cracks, major dents, and secure mountings.
- **Slack adjusters** - Check for broken, loose, or missing parts. The angle between push rod and adjuster arm should be not less than 90 degrees when the brakes are applied. With the brakes released, the brake rod should not move more than approximately 1 inch when pulled by hand. (There are different styles of brake chambers. Be familiar with the braking system on the vehicle(s) you are driving and/or testing in.)
- **Brake drums/linings** - Check for cracked drums and that no oil, grease, or brake fluid is present. If you can check the linings, look for 1/4 inch minimum lining present. If you cannot check the lining & drums because dust covers are present, tell the examiner what you would look for.

Wheels

- **Wheel rims** - Check for damaged or bent flange, rims should not have welding repairs, no cracks radiating from lug bolt holes or distortion of the bolt holes.
- **Lug nuts** - Check that all lug nuts are present and not loose. Look for rust trails around nuts or shiny threads.

- **Hub oil seals/axle seals** - Check to see that the seal is not leaking and, if sight glass is present, that oil level is adequate.
- **Tires** - The following items must be inspected on every tire:
  - Tread depth - Check for minimum tread depth (4/32 on steering axle tires, 2/32 on all other tires) and even wear.
  - Tire condition - Look for cuts or other damage to tread or sidewalls. Make sure tread is not separating from the tire (no retreaded, recapped, or regrooved tires on front wheels of buses and no regrooved tires on trucks or tractors). Also, make sure that valve caps and stems are not missing, broken, or damaged.
  - Tire inflation - Check for proper inflation using a tire pressure gauge or by striking tires with a mallet or other similar device. You will not get credit if you simply kick the tires to check for proper inflation.
- **Spacers/space** - If equipped with spacers, check that they are not bent, damaged, or rusted through. Spacers should be evenly centered with dual wheels and tires evenly separated. If not equipped with spacers, check for debris between the tires.

Driver/Fuel Area

- **Door** - Check that door(s) are not damaged and that they open and close securely. Hinges are secure with seals intact.
- **Mirrors** - Check that mirrors are present, securely mounted, and not cracked.
- **Fuel tank** - Check that the tank is secure, cap is secure, tank and lines are not damaged or leaking.
- **Battery/box** - Wherever located, see that battery(s) is secure, connections are tight, cell caps are present. Battery connections should not be excessively corroded. Battery box and cover or door must be secure. =
- **Catwalk** - Check that the catwalk is solid, securely bolted to the tractor frame, and clear of loose objects.

Under Vehicle

- **Drive shaft** - Check that the shaft is not bent or cracked and that the couplings are securely mounted. Make sure drive shaft guards, if equipped, are in place.
- **Frame** - Check for cracks, bends, broken welds, or other damage to longitudinal frame members, or cross members. On truck box (floor), also look for signs of breaks or holes.
- **Exhaust system** - Check system for damage and signs of leaks, such as rust or carbon soot. System should be connected tightly and mounted securely.

Rear of Vehicle

- **Mudflaps** - Check for presence of mudflaps on rear wheels. They must extend to each side of the tires, be in good condition, and reach within 10 inches of the road surface. Mud flaps are not required on school buses if the body of the school bus extends more than five feet beyond the rear wheels.
- **Doors/Ties/Lifts** - If equipped, check that doors and hinges are not damaged and that they open, close, and latch properly from the outside. Ties, straps, chains, and binders must also be secure. If equipped with a cargo lift, look for leaking, damaged, or missing parts and explain how the lift should be checked for correct operation. Lift must be fully retracted and latched securely.

- Power Unit / Trailer Attachment Components

Fifth Wheel Attachment

- **Air/electric lines** - Check that air hoses and electrical lines are not cut, cracked, chafed, worn, spliced, or taped. No electrical conductor or steel braid should be showing through. Listen for air leaks. Air and electrical lines should not be tangled, crimped, or pinched, and should not be dragged against tractor parts.

- **Mounting bolts on both the tractor and the trailer** - Look for loose, missing, or broken mounting brackets, clamps, bolts, or nuts. Both the fifth wheel and the slide mounting must be solidly attached.
- **Locking Pins(fifth wheel)** - If equipped, look for loose or missing pins in the slide mechanism of the sliding fifth wheel. If air powered, check for leaks. Make sure locking pins are fully engaged. Check that the fifth wheel is positioned properly so that the tractor frame will clear the landing gear during turns.
- **Platform (fifth wheel)** - Check for cracks or breaks in the platform structure which supports the fifth-wheel skid plate.
- **Locking jaws** - Look into fifth wheel gap and check that locking jaws are fully closed around the kingpin.
- **Kingpin/Apron/Gap** - Check that the kingpin is not bent. Make sure the visible part of the apron is not bent, cracked, or broken. Check that the trailer is laying flat on the fifth-wheel skid plate (no gap).
- **Release arm (fifth wheel)** - Make sure the release arm is in the engaged position and the safety latch is in place.

Other Coupling Systems

- **Air/electric lines** - Check that air hoses and electrical lines are not cut, cracked, chafed, worn, spliced, or taped. No electrical conductor or steel braid should be showing through. Listen for air leaks. Air and electrical lines should not be tangled, crimped, or pinched, and should not be dragged against the vehicle. Electric trailer brake lines should not be missing, worn, or damaged.
- **Mounting bolts on both the truck and the trailer** - Look for loose, missing, or broken mounting brackets, clamps, bolts, or nuts.
- **Ball/pintle hook** - Ball must show no signs of damage. On a pintle hook, look for cracks, welds, or wear.
- **Locking mechanism** - Inspect the locking mechanism to make sure it is locked securely with no loose or missing components.
- **Hitch/drawbar & eye** - check for cracks in attachment welds or drawbar. Check eye for welds or excessive wear.
- **Safety chains/cables** - If present, safety cables or chains must be secure and free of damage, kinks, and excessive slack.
- **Breakaway battery box/cable** - Wherever located, see that the battery(s) is secure, connections are tight, and that cell caps are present. Battery connections should not be excessively corroded. Battery box must be secure. Cable must be secure and free of damage, kinks, and excessive slack.

- **Air and electrical connectors** - Check that the trailer air connectors are sealed and in good repair, that glad hands are locked in place and free of damage, and that there are no audible air leaks. Check that the trailer electrical plug is firmly seated and locked in place. **- Trailers Only**
- **Header board** - If equipped, check the header board to see that it is secure, free of damage and strong enough to contain cargo in the event of an emergency stop.
- **Frame** - Check for cracks, bends, broken welds, or other damage to longitudinal frame members, or cross members. On floor, also look for signs of breaks or holes.
- **Landing gear** - Check that it is fully raised, no missing parts, and the support frame is not bent or damaged. The crank handle must be present and secured. If it is power operated, check for air or hydraulic leaks.
- **Tandem release arm/locking pins** - If equipped, make sure the locking pins are locked in place and release arm is secured.

- **Doors/Ties/Lifts** - If equipped, check that doors and hinges are not damaged and that they open, close, and latch properly from the outside. Ties, straps, chains and binders must also be secure. If equipped with a cargo lift, look for leaking, damaged, or missing parts and explain how it should be checked for correct operation. Lift must be fully retracted and latched securely.

- **Emergency equipment** - In addition to checking for spare electrical fuses (if equipped), three red reflective triangles, and a properly charged and rated fire extinguisher, school bus drivers must also check for the following emergency equipment: **- School Bus Only**
  - A first-aid kit meeting Idaho standards for content.
  - Body fluid clean-up kit.
  - Belt cutter on any bus equipped with belts or wheel chair tie-downs.
- **Lighting indicators** - In addition to checking the lighting indicators listed in Section 10.4 of this manual, school bus drivers must also check the following lighting indicators (internal panel lights):
  - Alternately flashing amber lights indicator, if equipped,
  - Alternately flashing red lights indicator,
  - Strobe light indicator, if equipped,
  - Lift door warning indicator, if equipped.
- **Lights/reflectors** - In addition to checking the lights and reflective devices listed in Section 10.2 of this manual, school bus drivers must also check the following (external) lights and reflectors:
  - Strobe light, if equipped,
  - Stop arm lights, if equipped,
  - Alternately flashing amber lights,
  - Alternately flashing red lights.
- **Stop arm** - Check the stop arm to see that it is mounted securely to the frame of the vehicle. Also, check for proper operation, loose fittings and damage.
- **Passenger entry/lift** - Check that the entry door is not damaged, operates smoothly, and closes securely from the inside, hand rails are secure, and the step light is working. The entry steps must be clear with the treads not loose or worn excessively. If equipped with a handicap lift, look for leaking, damaged, or missing parts and explain how lift should be checked for correct operation. Lift must be fully retracted and door latched securely.
- **Emergency exit(s)** - Make sure that all emergency exits (bus doors, roof hatches, or pushout windows used as exits in an emergency) are not damaged, operate smoothly, close securely from the inside and outside. Check that any emergency exit warning devices are working.
- **Seating** - Look for broken seat frames and check that seat frames are firmly attached to the floor. Check that seat cushions are attached securely to the seat frames.

- **Passenger entry/lift** - Check that entry doors operate smoothly and close securely from the inside. Check that hand rails are secure and if equipped, that the step lights(s) are working. Check that the entry steps are clear, with the treads not loose or worn excessively. If equipped with a handicap lift, look for any leaking, damaged, or missing parts, and explain how it should be checked for correct operation. Lift should be fully retracted and door latched securely. **- Coach/Transit Bus Only**
- **Emergency exits** (bus doors, roof hatches, or pushout windows used as exits in an emergency) - Make sure that all emergency exits are not damaged, operate smoothly, and close securely from the inside.
- **Passenger seating** - Look for broken seat frames and check that seat frames are firmly attached to the floor. Check that seat cushions are attached securely to the seat frames.

- **Doors/mirrors** - Check that entry/exit doors are not damaged and operate smoothly. Hinges should be secure with seals intact. Make sure that the passenger exit mirrors and all external mirrors and mirror brackets are not damaged and are mounted securely with no loose fittings.
- **Level/air leaks** - See that the vehicle is sitting level (front and rear), and if air-equipped, check for audible air leaks from the suspension system.
- **Fuel tank(s)** - Check that the tank is secure, cap is secure, and that tank and lines are not damaged or leaking.
- **Compartments** - Check that baggage and all other exterior compartment doors are not damaged, operate properly, and latch securely.
- **Battery/box** - Wherever located, see that battery(s) are secure, connections are tight, and cell caps are present. Battery connections should not show signs of excessive corrosion. Check that battery box and cover or door is not damaged and is secure.

10.4
IN-CAB CHECKS AND ENGINE START

- **Safety/emergency equipment** (used during a breakdown or at an accident) - Check for electrical fuses (if used), three emergency reflectors, a properly charged and rated fire extinguisher.
- **Safety/seatbelt** - Check that the safety belt is securely mounted, adjusts and latches properly.
- **Windshield** - Check for cracks, dirt, and illegal stickers or other obstructions which may limit visibility.
- **Mirrors** - Check mirrors for cleanliness and cracks, and make sure they are properly adjusted.
- **Lighting indicators** (dashboard lights for signals, flashers, and headlight high beam) - Check that the proper indicators illuminate when corresponding lights are turned on.
- **Windshield wipers/washers** - Check for worn rubber on blades, that blades are secure on wiper arm, and wipers work. If equipped with washers, they operate correctly.
- **Heater/defroster** - Check that the heater and defroster work.
- **Horn(s)** - Check air and/or electric horn(s) for proper function.
- **Clutch/gearshift** - Apply and release clutch pedal to check for freedom of movement and unusual noise, check that free play is not less than 1 inch and that clutch pedal does not go all the way to the floor before disengaging. The gearshift lever must go into gear. On an automatic transmission, the selector should be in the park or neutral position.
- **Oil pressure** - After starting the engine, check that oil pressure is building to normal, the gauge shows increasing or normal oil pressure or warning light goes off. The engine oil temperature gauge (if present) should begin a gradual rise to normal operating range.
- **Temperature gauge** - Make sure the temperature gauge is working. Temperature should begin to rise to normal operating temperature.
- **Ammeter/voltmeter** - After starting the engine, make sure the gauge shows that the alternator or generator is charging, or that the warning light is off. The needle may jump and flutter, then register "charge".
- **Steering wheel play** - Check the steering wheel play on non-power steering units with the engine off. Work the steering wheel back and forth, it should have less than 10 degrees free play (approximately 2 inches at the rim of a 20 inch steering wheel). For units with power steering, with engine running, work steering wheel from left to right and note degree of free play that occurs before front left wheel begins to move; the amount of play should be less than 10 degrees.

- **Air-system check (air-brake equipped vehicles only). Failure to perform an air brake check will result in an automatic failure of the Vehicle Inspection Test**. Air brake safety devices vary. However, this procedure is designed to see that the air brake system operates correctly as air pressure drops from normal to a low air condition. For safety purposes, in areas where an incline is present, you will use wheel chocks during the air brake check. The proper procedures for inspecting the air brake system are as follows:
  1. With the engine running, build the air pressure to governed cut-out (100 to 125 psi). Shut off the engine, chock your wheels, if necessary, release the tractor-protection valve and parking brake (push in), fully apply the foot brake and hold it for one minute. Check the air gauge to see if the air pressure drops more than three pounds in one minute (single vehicle) or four pounds in one minute (combination vehicle).
  2. Turn the key to the on position (do not start the engine). Begin fanning off the air pressure by rapidly applying and releasing the foot brake. Low air warning devices (buzzer, light, flag) should activate before air pressure drops below 60 psi.
  3. Continue to fan off the air pressure. At approximately 40 psi on a tractor-trailer combination vehicle, the tractor-protection valve and parking brake valve should close (pop out). On other combination vehicle types and single vehicle types, the parking brake should close (pop out).
- **Hydraulic brakes** (hydraulic brake equipped vehicles only) .
  - Check for hydraulic leaks. Pump the brakes 3 times. Apply firm brake pressure and hold it for 5 seconds. If the pedal moves, there may be a leak or other defect. Get it fixed before driving.
  - If equipped with a hydraulic brake reserve (back-up) system, with the key off, depress the brake pedal and listen for the sound of the reserve system electric motor.
  - Check that the warning buzzer or light is off.

Parking brake (all vehicles)

- With the parking brake on, gently pull against it in a low gear to see if the parking brake will hold the vehicle.

Service brake (all vehicles)

- Release the parking brake, move the vehicle forward slowly (about 5 mph), and apply the brakes firmly using the brake pedal. Note if vehicle 'pulls' to one side, unusual feel, or delayed stopping action.